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RTOs and Market Design:
How to Get Electricity Markets to Work

Remarks
by
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I. Introduction

Good afternoon. The Commission issued a clarion call for RTO development last December, and it is my impression that the recent high prices in some wholesale markets has heightened the Commission's interest in the getting good RTOs into operation.

Markets require open access to an efficiently organized transmission grid. RTOs that meet the requirements of the Commission's Order No. 2000 will help ensure access to the grid, will enlarge power markets and improve grid operation through better transmission pricing, will establish regional planning processes that should facilitate improved siting decisions and result in more grid facilities, and will improve congestion management on the grid, thereby allowing more efficient use of the existing grid facilities. RTOs will also facilitate consistent market rules within a trading region.

These are important benefits, ones that must be realized if markets are to produce a reliable, efficient supply of power for the Nation at reasonable prices. Thus, I regard the upcoming compliance phase of our RTO initiative with the utmost of importance.

By now I would assume that everyone is well familiar with the requirements of Order 2000, so I will not spend my time outlining those provisions. Instead, I would like to summarize the important points of the several orders that the Commission has issued since Order 2000 that highlight the Commission's concerns and guidance in addressing concrete RTO concepts. I would also like to comment on the lessons that I have taken away from this summer's events in electricity markets and how they bear on RTO formation and market rules.

II. The Commission's Orders

First, since Order No. 2000 the Commission has issued several orders that provide useful guidance for RTO formation. I would like to briefly reviewa few of those cases.

A. Alliance

One of the first proposals we dealt with was that of the Alliance Companies. I think the significance of the two orders we have issued in Alliance is that we held to our standards in a number of areas. One was independence, our bedrock principle. We found problems with the fiduciary duties of the passive owners to the Alliance companies, the veto power of passive owners over certain actions, and the rights of the Alliance Companies to remove the ISO board. Most importantly, the Commission refused to compromise our rule of thumb for active ownership of 15% per class of active owners.

A second important issue in Alliance was pancaked transmission rates. The Commission told Alliance that it must eliminate pancaking as required by Order No. 2000.

A third major concern in Alliance was scope and configuration. We found that the proposed scope and configuration would isolate PJM on the east from utilities west of Alliance and perpetuate the separation of buyers and sellers that constitute the predominant west-to-east trading patterns. We also found that Alliance would not internalize or otherwise address loop flow issues and that it severs two existing NERC reliability councils. I am pleased that Alliance has recently made a new filing that purports to address these concerns.

B. Commonwealth Edison ITC.

Another important spring order addressed Commonwealth Edison's proposal to form what it termed a "binary" RTO, that is, an RTO comprised of a transco operating under the oversight of the Midwest ISO. There was a lot to like in the Commonwealth proposal. The transco ultimately will become a single NERC certified control area, and will thus operate regional facilities on a coordinated basis. The transco will eliminate the distinction between bundled native load and customers taking unbundled transmission service. In other words, all load will take service under a single tariff. This is excellent. The RTO will develop a regime that uses locational marginal pricing and financial transmission rights to manage and price congestion. And finally, the RTO will develop a performance based rate scheme that will employ incentives to control the costs of congestion, ancillary services, losses and grid administration.

The proposal also raised some important concerns. Commonwealth proposed what it calls a "binary" model for an RTO, meaning that there are some authorities and responsibilities that the ITC and the Midwest ISO will share. Can a sharing of authority and responsibility ensure that all RTO functions are performed by a responsible RTO entity? Will shared authority deal effectively with the current balkanization of grid management that the Commission set out to eliminate in Order No. 2000? These are important questions.

Although the Commission accepted the proposal, our order wisely refused to reach conclusions regarding a number of issues, including scope and configuration Instead, the order noted that the overarching objective of Order No. 2000 is a single, coordinated and transparent bulk power market in each region, irrespective of the number of transmission entities that support that market, and that the applicants must provide additional support and explanation.

C. Southwestern Power Pool

SPP's January 2000 RTO proposal fell short of a number of our RTO standards. One was that the transmission owning members of the SPP RTO did not plan to file a section 203 request with the Commission to turn operational control over to the RTO. Instead, they planned to operate under a type of agency agreement. This was not acceptable. Second, SPP did not propose a real time

balancing market, as required in Order No. 2000. And third, the Commission found SPP's proposed scope and configuration to be inadequate and we directed SPP to reform it. It is my understanding that SPP intends to file a new proposal that will now include Entergy's participation and will attempt to address the Commission's concerns.

D. ISO New England

This spring New England filed a comprehensive market redesign proposal that the Commission accepted. There were four important RTO aspects to our order. One is that the Commission required all transmission projects in the ISO regional plan to be built following a competitive solicitation. This will ensure the efficient implementation of the regional transmission plan regarding transmission expansion. Second, our order found that the transmission plan for the region should be made by the ISO/RTO, not the individual transmission owners. The concern here was that the transmission owners would tilt planning toward transmission solutions even where a generation solution made more sense.

Third, the New England order put our thumb on the scale for locational marginal pricing, observing that LMP sends correct price signals for using existing generation and transmission resources efficiently, and it encourages efficient location of future generation and transmission facilities. The order also recognizes the need for some flexibility in moving to LMP. While New England generators will see prices at individual nodes, we allowed the load in various load zones to be billed at the average of the nodal prices in the region. Importantly, however, we required that each load be given a choice regarding whether it wants to face the zonal price or the nodal price.

And fourth, the New England order expressed our preferences on some key market design issues, strongly influenced by the prevailing market designs in the other ISOs in the region – New York and PJM. Indeed, we directed ISO New England to consult with PJM and the New York ISO on coordinating market designs and to file a report with the Commission. I strongly support this approach. Consistent design and operation parameters among the ISOs help to eliminate seams among the three markets, and thereby embrace one large Northeastern market. This is consistent with Order No. 2000's goal of large regional markets.

These cases indicate that the Commission remains focused on the independence and scope and configuration issues. There is a growing respect for the value of these two primary RTO standards. The Commission will look for creative ways to expand the scope and size of an RTO. Also these cases reflect that whenever the Commission has been presented with an opportunity to promote LMP, we have taken that opportunity. And finally, there is a growing awareness that the seams between RTOs must be well managed in order to facilitate large seamless markets. The market rules among adjacent regions should be compatible.

III. This Summer's Lessons for RTOs

A. Eliminate Obstacles to Supply

Let me now turn to what I see as the lessons for RTOs to be drawn from the experiences of this summer, mostly in California.

One is that RTOs must do all that they can to eliminate all obstacles to expanding the supply of generation capacity. An important RTO feature here would be streamlined, standardized interconnection procedures and agreements across the RTO. I have been pushing for greater standardization of federal interconnection standards so that generators that want to hook up will have uniform rules that facilitate easy entry. Interconnection legerdemain is anticompetitive and anti-consumer. But not all interconnection authority resides at the federal or the RTO level. The interconnection of many generators, including many applications of distributed generation, is at the state level, and the states have work to do in this area as well.

B. Accurate Scheduling

A second lesson is that the RTO rules must ensure accurate scheduling of load and generation. One of the factors that can contribute to high prices is underscheduling of both load and generation. Scheduling imprecision is to be expected to some degree, but market monitors in California report that deliberate underscheduling is done in the California PX day ahead markets by both load serving entities and generators in order to influence market prices. Substantial underscheduling then forces the ISO to go into the real time markets to make up the difference between what has been scheduled and what is needed to keep the system

in balance. Under such conditions, the ISO is vulnerable to paying very high prices. Perhaps even more important, last minute resource imbalances pose reliability concerns. RTOs must be sure to create strong incentives for market participants to schedule as accurately as possible.

C. Demand Side Responsiveness

A third lesson relates to the role of RTOs and demand side responsiveness. Demand responsiveness is a standard means of moderating prices in well-functioning markets, but it is all but absent from electricity markets. When prices for other commodities get high, consumers can usually respond by buying less, thereby acting as a brake on price run-ups. Without the ability of end use electricity consumers to respond to prices, there is virtually no limit on the price that suppliers can fetch in shortage conditions. Again, the market monitors in California hammer on this problem in their reports.

So what can RTOs do? RTOs can work with their state commissions and other authorities to increase demand responsiveness. In our ISO New England order I talked about earlier, we required this. One thing RTOs and the states could do is concentrate on arrangements that compensate large industrial and large commercial customers for reducing consumption. That will provide the biggest bang for the buck and may even capture enough of the demand curve to help discipline price run-ups. I understand that the California ISO is aggressively pursuing such demand side programs to be in place by next summer. It has also been suggested that RTOs operate or facilitate the operation of demand-side markets where wholesale demand aggregators bid negawatts. I would recommend that the Commission consider this as part of our RTO policy. All options for improving demand responsiveness to prices should be considered. All reports and analyses I have seen have emphasized this lack of demand responsiveness as a critical problem.

D. Hedging

Fourth, RTOs and state and federal policy makers must do all that we can to ensure that there is not over reliance on the real time and spot markets. Spot markets are almost by nature volatile. While the spot market is the appropriate venue to secure limited portions of needed supply, it should not be relied upon for

most or all of the supply portfolio. Over reliance by purchasers on the real time markets actually increases the market power of suppliers in those markets. Where that is the case, the painful results are almost predictable. Look at California. Market participants should be given the lattitude to use forward contracts and other instruments to hedge as much as is reasonable. Surely purchasers having available a balanced portfolio of long-term and short-term supply is a key ingredient of well-functioning markets.

E. Congestion Management

I believe recent events have also driven home both the reliability and price signal value of a good market based congestion management regime. Order No. 2000 requires that RTOs adopt one but does not actually require a specific design for congestion management. However, I don't think it's any secret that I find great value in the locational marginal pricing, or LMP, model. LMP sends the correct price signals needed for optimal use of existing generation and transmission resources and also encourages efficient siting of future generation and transmission expansion.

And I do not think I'm alone. I think the Commission tilts toward LMP, perhaps even looking on it as a presumptive favorite. We even mentioned it specifically in Order No. 2000 as an approach that offers more promise than others. I know that the Commission staff favors LMP. And why not? We have a real world success story of LMP implementation in the PJM ISO. Despite some initial concerns with it, I've heard very few complaints about the PJM market. Indeed, there are close to 40,000 Mws of new generation projects queued up to participate in the PJM market. In my book, that's a strong indication of success.

But I do not want to leave the impression that I or the Commission are close minded on alternatives to LMP for congestion management. I am aware that a specific alternative - - flow based scheduling - - is being debated. It was probably debated right here this morning. My basic understanding of this proposal is that the RTO would identify a small number of significant flowgates on the network that are prone to congestion. This would be done through the use of models using NERC's Transaction Distribution Factors. The RTO would then define the maximum flow on each flowgate, and then auction tradeable physical rights to the flowgates based

on the predicted maximum flow. The RTO would then base its day ahead schedules on these rights.

I think a debate on the flowgate model is healthy. During the course of this debate, I would like to see some issues addressed that are on my mind. For example, what happens when constraints that are not identified as flowgates actually became constraining, or when facility outages result in flows that are different from the model predictions that the physical rights are based on? And what happens if the RTO's real time schedule differs from the forecasted day ahead schedule? Don't these two possibilities mean that there must be some sort of real time LMP-like congestion management system in place as a backstop? If that's the case, have we advanced the ball very far if we have to graft two systems together instead of having just one? Can traders be appropriately hedged in the flowgate schedule if there is last minute congestion that must be dealt with? And finally, how will the RTO identify the number of flowgates? Won't there be pressure from some market participants to identify just a few flowgates and have the unforecasted congestion costs of redispatch socialized through uplift?

Again, these are some uncertainties I would like to see debated. I would say that this point the presumed favorite at the Commission is LMP, but the ongoing debate is certainly healthy.

F. Scope and Configuration

It is my impression that the events of this summer have increased the interest at the Commission in securing RTOs with the appropriate scope and configuration. This summer's experience has demonstrated that electricity markets are inherently regional in nature. Prices throughout the western United States rose and fell with events in California. In order to thrive, such markets must have an open, non-discriminatory, well-managed, and efficiently priced interstate transmission network that links buyers and sellers of power over a large region.

Given this importance, the concern is that the Commission may get RTO proposals of small scope with promises of seams agreements with surrounding RTOs. However, I am very skeptical that mere seams agreements with neighboring control areas will be capable of addressing all inadequacies of the proposed scope and configuration. Achieving the reliability and other benefits of RTOs depends on

the ability of the RTO to control all of the transmission facilities in an appropriate region. Seams agreements, while important, are not complete substitute for adequate scope and configuration. RTOs themselves must have the scope and configuration needed to effectively manage the regional grid.

IV. RTO Compliance Phase

Given what I see as an increased perception of the need for RTOs to facilitate market development, coupled with the flexibility the Commission has offered for meeting our RTO requirements, I am cautiously optimistic that the Commission will receive some solid RTO proposals.

The deadline for RTO filings – October 15 – is fast approaching. Public utility transmission owners have two choices on the type of filing to make. One is to propose, or be part of a proposal for, an RTO that satisfies the Commission's requirements for characteristics and functions. The other much less appealing option is to file an explanation as to why you are not making an RTO filing and your future plans for doing so.

My advice is to all to propose an RTO that demonstrates a good faith effort to comply with all aspects of our rule. Given the flexibility that we've accorded, applicants should make a persuasive case for how a proposed grid organization satisfies the required characteristics and functions.

It is obvious that the Commission is very serious about RTO formation. An unprecedented amount of staff resources have gone into the outreach effort that preceded Order 2000, and into the collaborative effort that has been underway for the past nine months in all regions of the country. And the Commission's commitment to this policy is evident from the text of Order 2000 and the public comments of all of my fellow Commissioners.

The Commission is also serious about getting RTOs in operation by December 15, 2001. To meet that goal, I would hope that we will be able to give quick approval to the well supported proposals that we receive next month. For those proposals that fall short, but that demonstrate a good faith commitment to RTO formation, the Commission must respond with useful guidance and assistance aimed at getting the RTO operational by the December 15, 2001 deadline.

Given the Commission's firm commitment to this policy, I expect success. The Commission has more legal authority than it has thus far utilized to ensure RTO formation. I believe that the Commission will insist that an Order No. 2000 compliant RTO forms in every region of the country.

V. Conclusion

In conclusion, the Commission has two major yet related tasks over the next 18 months. One is to work with industry to ensure the formation and start of good RTOs. And second, building upon the RTO platform, we must ensure that all elements are in place for well functioning wholesale markets.

Thank you.